

Programme

Faraday Discussion 155: Artificial Photosynthesis 5 - 7 September 2011 University of Edinburgh, Scotland, UK

Monday 5 September

13:15	Welcome and Introductions Professor Tony Harriman, <i>Newcastle University, UK</i>
Session 1	Integrated Photosystems and Energy transfer Session Chair: Professor Richard Cogdell FRS, <i>University of Glasgow, UK</i>
13:30 Paper 1	Introductory Lecture Devens Gust <i>Arizona State University, USA</i>
14:30 Paper 2	Design principles of photosynthetic light harvesting Graham Fleming* <i>University of California, Berkeley, USA</i>
14:35 Paper 3	Physical constraints on charge transport through bacterial nanowires David N Beratan* <i>Duke University, USA</i>
15:30	Afternoon Tea
16:00 Paper 4	Engineering antiparallel charge-transfer cascades into supramolecular n/p-heterojunction photosystems: Toward directional self-sorting on surfaces Professor Stefan Matile* <i>University of Geneva, Switzerland</i>
16:05 Paper 5	Synthetic polymers for solar harvesting Kenneth P Ghiggino*, Toby D M Bell and Emma Hooley <i>University of Melbourne, Australia</i>
16:10 Paper 17	Formation of a long-lived electron-transfer state of a naphthalene-quinolinium ion dyad and the π-dimer radical cation Shunichi Fukuzumi* <i>Osaka University, Japan</i>
17:30	Close of Session
17:30 – 19:00	Poster Session
	Free Evening

Tuesday 6 September

Session 2	Solar Fuel Production Session Chair: Professor Tony Harriman, <i>Newcastle University, UK</i>
09:00 Paper 7	Development of highly efficient supramolecular CO₂ reduction photocatalysts with high turnover frequency and durability Osamu Ishitani* <i>Tokyo Institute of Technology, Japan</i>
09:05 Paper 8	Steric effects for proton, hydrogen-atom, and hydride transfer reactions with geometric isomers of NADH-model ruthenium complexes Etsuko Fujita* <i>Brookhaven National Laboratory, USA</i>
09:10 Paper 9	How is water molecule activated on metalloporphyrins? Oxygenation of substrates induced through one-photon/two-electron conversion in the artificial photosynthesis by visible light Akihiro Kumagai, Shigeaki Funyu, Shinsuke Takagi, Dai Masui, Tetsuya Shimada, Hiroshi Tachibana and Haruo Inoue* <i>Tokyo Metropolitan University, Japan</i>
10:30	Morning Coffee
11:00 Paper 10	Electron transfer kinetics in water splitting dye sensitized solar cells based on core-shell oxide electrodes Tom Mallouk* <i>Pennsylvania State University, USA</i>
11:05 Paper 11	Light-driven water oxidation with a molecular tetra-cobalt(III) cubane cluster Sebastiano Campagna,* Giuseppina La Ganga and Fausto Puntoriero <i>Università di Messina, Italy</i>
11:10 Paper 12	Colloidal metal oxide particles loaded with synthetic catalysts for solar H₂ production Erwin Reisner* <i>University of Cambridge, UK</i>
12:30	Close of Session and Lunch/Posters

Session 3	Bioinspired Photosynthesis Session Chair: Dr Andy Benniston, <i>Newcastle University, UK</i>
14:00 Paper 19	A Ga₂O₃ underlayer as an isomorphic template for ultrathin hematite films toward efficient photoelectrochemical water splitting Michael Graetzel* <i>Ecole polytechnique fédérale de Lausanne, Switzerland</i>
14:05 Paper 14	Accumulative electron transfer: Multiple charge separation in artificial photosynthesis Leif Hammarström* <i>Uppsala University, Sweden</i>
14:10 Paper 15	Decorating polyelectrolyte wrapped SWNTs with CdTe quantum dots for solar energy conversion Dirk Guldi* <i>Erlangen University, The Netherlands</i>
15:30	Afternoon Tea
16:00 Paper 16	Ru complexes containing pyridine-dicarboxylate ligand: Electronic effect on their catalytic activity toward water oxidation Licheng Sun* <i>Royal Institute of Technology, Sweden</i>
16:05 Paper 6	Single-molecule fluorescence dynamics of a butadiyne-linked porphyrin dimer: effect of conformational flexibility in host polymers Dongho Kim* <i>Yonsei University, Republic of Korea</i>
16:10 Paper 18	Artificial leaf device for solar fuel production Yutaka Amao* <i>Oita University, Japan</i>
17:30	Close of Session
19:30	Pre-dinner Drinks
20:00	Conference Dinner

Wednesday 7 September

Session 4	Photoelectrochemistry Session Chair: Professor James Durrant, <i>Imperial College London, UK</i>
09:00 Paper 22	Kinetics of light driven oxygen evolution at α-Fe₂O₃ photoanodes Laurence M Peter*, K.G.Upul Wijayantha, Asif.A. Tahir and Sina S. Yarahmadi <i>University of Bath, UK</i>
09:05 Paper 20	Photoinduced electron transfer in composites of conjugated polymers and dendrimers with branched colloidal nanoparticles Garry Rumbles* <i>National Renewable Energy Laboratory, USA</i>
10:00	Morning Coffee
10:30 Paper 21	Excitons and charges at organic semiconductor heterojunctions Sir Richard Friend* <i>University of Cambridge, UK</i>
11:00 Paper 23	Concluding Remarks Stenbjörn Styring <i>Uppsala University, Sweden</i>
11:30	Acknowledgements
11:45	Close of Meeting